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CHAWAN, VIJAY B	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/575,609	Applicant(s) SLUIJTER ET AL.	
	Examiner Vijay B. Chawan	Art Unit 2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-9 and 11-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-9 and 11-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1,3, 9,11, 13, 15, 17, 19, 21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taori et al., (6,078,879).

As per claim 1, Taori et al., disclose a transmission system comprising a transmitter with an encoder for encoding an audio signal (Col.1, lines 38-39), the encoder comprising frequency determining means for determining a frequency of at least one periodical component of the audio signal (Col.4, line 55, Table 2:pitch depends on frequency), the transmitter further comprises transmitting means for transmitting a signal representing said frequency from the transmitter (Col.3, lines 3-8), and a decoder for deriving a reconstructed audio signal on the basis of said frequency (Col.3, lines 12-14), wherein the encoder further comprises frequency change determining means for determining a frequency change of at least one periodical component of the audio signal over a predetermined amount of time

(Col.4, lines 45-48 & 55-58, Col.12, lines 4-9, Fig.3, items 32, 34, - the analysis means contained in the encoder contains the pitch tuning means that determine the frequency change, referred to as the Pitch range Computer, and the Refined Pitch Computer).

Taori et al., do not specifically disclose the frequency change used by said decoder for deriving said reconstructed audio signal. However, an artisan with ordinary skill in the art at the time of invention would readily recognize that the signal used by the decoder in system of Taori et al., is used to derive the reconstructed audio signal. The purpose of a decoder is to reconstruct the audio signal using the same parameters used by the encoder, i.e., in the instant case the frequency, after the audio signal is passed through the encoder. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention that the decoder in the system of Taori et al., the frequency change is used by the decoder for deriving said reconstructed audio signal, because a decoder's main function is to decode or reconstruct a signal that is encoded by the encoder, with the same parameters that the encoder used to encode the signal.

Taori et al., teach a transmission system, wherein the transmitting means are arranged for transmitting a further signal representing said frequency change to the receiver, the receiver is arranged for receiving said further signal (Col.3, lines 6-7, Figures 1, 2, 5; the transmitter is capable of transmitting a frequency change to the receiver, as the output signal of the transmitter is conveyed to a receiver), and in

that the decoder is arranged for deriving said reconstructed audio signal also on the basis of said frequency change (Col.3, lines 12-16, the output signal of the receive processing means is passed to speech decoder which converts its input signal to a signal to a reconstructed speech signal).

As per claim 9, Taori et al., teach a transmitter with an encoder for encoding an audio signal (Col.1, lines 38-39), the encoder comprises frequency determining means for determining a frequency of at least on periodical component of the audio signal (Col.4, line 52, table 2: pitch period depends on frequency), the transmitter further comprises transmitting means for transmitting a signal representing said frequency (col.3, lines 3-7), figs. 1, 2, 5: the transmitter is capable of transmitting a frequency change to the receiver), wherein the encoder further comprises frequency change determining means for determining a frequency change of said at least one periodical component of the audio signal over a predetermined amount of time (Col.4, lines 45-48 & 55-58; Col.12, lines 4-9, Fig, 3, items 32,43: the analysis means contained in the encoder contains the pitch tuning means that determine a frequency change, referred to as the Pitch Range Computer and the Refined Pitch Computer).

Taori et al., do not specifically disclose the frequency change used by said decoder for deriving said reconstructed audio signal. However, an artisan with ordinary skill in the art at the time of invention would readily recognize that the used by the decoder in system of Taori et al., is used to derive the reconstructed

audio signal. The purpose of a decoder is to reconstruct the audio signal using the same parameters used by the encoder, i.e., in the instant case the frequency, after the audio signal is passed through the encoder. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention that the decoder in the system of Taori et al., the frequency change is used by the decoder for deriving said reconstructed audio signal, because a decoder's main function is to decode or reconstruct a signal that is encoded by the encoder, with the same parameters that the encoder used to encode the signal.

Taori et al., disclose the transmitter, wherein the transmitting means are arranged for transmitting a further signal representing said frequency change (Col.3, lines 3-7, Figs. 1, 2 & 5: the transmitter is capable of transmitting a frequency change to the receiver).

As per claim 11, Taori et al., teach the transmitter according to claim 9, wherein the encoder comprises means for determining a fundamental frequency from the audio signal under use of said change of said fundamental frequency over a predetermined amount of time (Col.7, lines 13-14: the pitch frequency candidate selector is the means for determining the fundamental frequency).

As per claim 13, Taori et al., teach a receiver comprising receiving means for receiving an encoded audio signal representing an audio signal by at least a frequency of at least one periodical component of the audio signal, wherein the receiver is arranged for receiving a further signal representing a frequency change

of said at least one periodical component of said audio signal over a predetermined amount of time (Col.1, lines 38-39, Col.4, lines 55-58, table 2, Col.3, lines 3-8), and a decoder for deriving a reconstructed audio signal on the basis of said frequency, and the decoder is arranged for deriving said reconstructed audio signal also on the basis of said frequency change (Col.3, lines 12-14, Col.6, lines 66-67).

As per claim 15, Taori et al., disclose an encoder for encoding an audio signal (Col.3, lines 1-2), the encoder comprises means for determining a frequency of at least one periodical component of the audio signal (Col.4, line 55, Table 2: pitch depends on frequency), and for deriving a signal representing said frequency (Col.3, lines 2-6: the output of the encoder is transmitted to the transmit processing means perform conventional signal processing functions), wherein the encoder further comprises frequency change determining means for determining a signal representing a frequency change of said at least one periodical component over a predetermined amount of time (Col.4, line 55, Table 2: pitch depends on frequency).

Taori et al., do not specifically disclose the frequency change used by said decoder for deriving said reconstructed audio signal. However, an artisan with ordinary skill in the art at the time of invention would readily recognize that the used by the decoder in system of Taori et al., is used to derive the reconstructed audio signal. The purpose of a decoder is to reconstruct the audio signal using the same parameters used by the encoder, i.e., in the instant case the frequency, after

the audio signal is passed through the encoder. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention that the decoder in the system of Taori et al., the frequency change is used by the decoder for deriving said reconstructed audio signal, because a decoder's main function is to decode or reconstruct a signal that is encoded by the encoder, with the same parameters that the encoder used to encode the signal.

As per claim 17, Taori et al., teach a decoder for deriving a reconstructed audio signal from an encoded audio signal representing said audio signal by at least a frequency of at least one periodical of the audio signal, wherein the receiver is arranged for receiving a further signal representing a frequency change of said at least one periodical component of said audio signal over a predetermined amount of time (Col.1, lines 38-39, Col.4, lines 55-58, table 2, Col.3, lines 3-8 & 12-14, Col.4, lines 45-48 & 55-58, Col.12, lines 4-9, Fig.3, items 32, 34).

As per claim 19, Taori et al., teach a method for encoding an audio signal comprising determining a frequency of at least one periodical component (Col.4, line 55, Table 2: pitch depends on frequency), and deriving a signal representing said frequency of at least one periodical component of the audio signal (Col.3, lines 2-6: the output of the encoder is transmitted to the transmit processing means in the form of a signal because only in the form of a signal can the transmit processing means perform conventional signal processing functions), and determining a signal representing a frequency change of said at least one periodical

component of the audio signal over a predetermined amount of time (Col.4, lines 45-48 & 55-58, Col.12, lines 4-9, Fig.3 items 32-34).

Taori et al., do not specifically disclose the frequency change used by said decoder for deriving said reconstructed audio signal. However, an artisan with ordinary skill in the art at the time of invention would readily recognize that the used by the decoder in system of Taori et al., is used to derive the reconstructed audio signal. The purpose of a decoder is to reconstruct the audio signal using the same parameters used by the encoder, i.e., in the instant case the frequency, after the audio signal is passed through the encoder. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention that the decoder in the system of Taori et al., the frequency change is used by the decoder for deriving said reconstructed audio signal, because a decoder's main function is to decode or reconstruct a signal that is encoded by the encoder, with the same parameters that the encoder used to encode the signal.

As per claim 21, Taori et al., disclose a method for deriving a reconstructed audio signal from an encoded audio signal representing said audio signal by at east a frequency of at least one periodical component of the audio signal, and a decoder for deriving a reconstructed audio signal on basis of said frequency, wherein the method comprises deriving said reconstructed audio signal also on the basis of a further signal representing a frequency change of at least one periodical component of the audio signal over a predetermined amount of time (Col.1, lines 38-39, Col.4,

line 55, Table 2, Col.3, lines 3-8, & 12-14, Col.4, lines 45-48 & 55-58, Col.12, lines 4-9, Fig.3, items 32, 34).

As per claim 23, Taori et al., disclose a storage medium carrying a computer program for performing a method according to claim 19 (Col.1, lines 25-32).

As per claim 24, Taori et al., disclose a signal carrying a computer program for performing a method according to claim 19 (Col.1, lines 25-32).

As per claim 25, Taori et al., disclose an encoded audio signal representing said audio signal by at least a frequency of at least one periodical component of the audio signal, where in the encoded audio signal comprises a further signal comprises a further signal component representing a frequency change of said at least one periodical component over a predetermined amount of time (Col.1, lines 38-39, Col.4, lines 55-58, table 2).

Taori et al., do not specifically disclose the frequency change used by said decoder for deriving said reconstructed audio signal. However, an artisan with ordinary skill in the art at the time of invention would readily recognize that the used by the decoder in system of Taori et al., is used to derive the reconstructed audio signal. The purpose of a decoder is to reconstruct the audio signal using the same parameters used by the encoder, i.e., in the instant case the frequency, after the audio signal is passed through the encoder. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention that the decoder in the system of Taori et al., the frequency change is used by the decoder

for deriving said reconstructed audio signal, because a decoder's main function is to decode or reconstruct a signal that is encoded by the encoder, with the same parameters that the encoder used to encode the signal.

As per claim 26, Taori et al., disclose a storage medium carrying an encoded audio signal according to claim 23 (Col.1, lines 25-32).

3. Claims 4, 5, 12, 14, 16, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taori et al., (6,078,879) in view of Wang et al., (5,467,005).

Taori et al., while disclosing a transmission system according to claim 1, do not specifically teach an encoder comprises time transforming means for obtaining a time transformed audio signal, wherein the time transforming means are arranged for time compressing the audio signal during a first part of the predetermined amount of time and for time expanding the audio signal during a second part of the predetermined amount of time in such a way that the time transformed audio signal has a smaller frequency change than the audio signal, as per claims 4,12,16, 20. Wang et al., teach increasing the pitch by a frequency increase (Col.4, lines 57-58), and reducing the pitch of the sound signal resulting in a frequency drop (Col.5, lines 8-9). Increasing the frequency is equivalent to time compressing the audio signal, and reducing the frequency is equivalent to time expanding the audio signal. Therefore, it would have been obvious to one with ordinary skill in the art at the

time of invention to modify the transmission system of Taori et al., to further include time transforming means for obtaining a time transformed audio signal, wherein the time transforming means are arranged for time compressing the audio signal during a first part of the predetermined amount of time and for time expanding the audio signal during a second part of the predetermined amount of time in such a way that the time transformed audio signal has a smaller frequency change than the audio signal for the purpose of increasing the accuracy of the reconstruction of the audio signal.

Taori et al., while disclosing a transmission system according to claim 1, and further teaches a frequency determining means for determining the frequency of at least one periodical component of the signal (Col.4, line 55, Table 2), and a frequency change determining means for determining a frequency change of at least one periodical component of an audio signal (Col.4, lines 45-48 & 55-58, Col.12, lines 4-9), do not specifically teach the transmission system wherein the frequency change determining means comprise time transform determining means for deriving a plurality of time transformed audio signals, each corresponding to a different time transform, and in that the time transform determining means comprise selection means for selecting the time transform corresponding to the time transformed audio signal having the smallest frequency change over said predetermined amount of time.

It is obvious to an artisan with ordinary skill in the art at the time of invention to include the above features because if the frequency change of one audio signal can be determined, the frequency change of a plurality of audio signals can also be determined, and subsequently choosing the signal with the smallest frequency change amongst the plurality of audio signals. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to modify the system of Taori et al., to further include frequency change determining means to comprise time transform determining means for deriving a plurality of time transformed audio signals, each corresponding to a different time transform, and in that the time transform determining means comprises selection means for selecting the time transform corresponding to the time transformed audio signal having the smallest frequency change over said predetermined amount of time, because an artisan with ordinary skill in the art would recognize that this would reconstruct an audio signal with improved quality.

Taori et al., while teaching the receiver according to claim 1, fail to disclose a receiver according to claim 13, wherein the decoder comprises time transforming means for obtaining the reconstructed audio signal by time transforming a decoded signal wherein the time transforming means are arranged for time expanding the decoded signal during a first part of the predetermined amount of time, and for time compressing the decoded signal during a second part of the predetermined amount of time in such a way that the time transformed decoded signal has a

larger frequency change than the decoded signal. Wang et al., however do teach reducing the pitch of the sound signal resulting in a frequency drop (Col.5, lines 8-9), and increasing the pitch by a frequency increase (Col.4, lines 57-58). Reducing the frequency is equivalent to time expanding the audio signal, and increasing the frequency is equivalent to time compressing the audio signal. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to modify the receiver of Taori et al., with the teachings of Wang et al., such that the decoder comprises time transforming means for obtaining the reconstructed audio signal by time transforming a decoded audio signal wherein the time transforming means are arranged for time expanding the decoded signal during a first part of the predetermined amount of time and for time compressing the decoded signal during a second part of the predetermined amount of time in such a way that the time transformed decoded signal has a larger frequency change than the decoded signal for the purpose of increasing the accuracy of the reconstruction of the audio signal.

Taori et al., teach a decoder as per claim 17, but do not specifically teach a decoder comprising time transforming means for obtaining the reconstructed audio signal by time transforming a decoded signal, wherein the time transforming means are arranged for time expanding the decoded signal during a first part of the predetermined amount of time and for time compressing the decoded signal during a second part of the predetermined amount of time in such a way that the reconstructed audio signal has a larger frequency change than the decoded signal,

as per claim 18. Wang et al., do teach reducing the pitch of the sound signal resulting in a frequency drop (Col.5, lines 8-9), and increasing the pitch by a frequency increase (Col.4, lines 57-58). Reducing the frequency is equivalent to time expanding the audio signal, and increasing the frequency is equivalent to time compressing the audio signal. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to modify the receiver of Taori et al., with the teachings of Wang et al., such that the decoder comprises time transforming means for obtaining the reconstructed audio signal by time transforming a decoded audio signal wherein the time transforming means are arranged for time expanding the decoded signal during a first part of the predetermined amount of time and for time compressing the decoded signal during a second part of the predetermined amount of time in such a way that the time transformed decoded signal has a larger frequency change than the decoded signal for the purpose of increasing the accuracy of the reconstruction of the audio signal.

Taori et al., teach a method as per claim 19, but do not specifically teach a method comprising time deriving a time transformed audio signal and time compressing the audio signal during a first part of the predetermined amount of time, and for time expanding the audio signal during a second part of the predetermined amount of time in such a way that the time transformed audio signal ahs a smaller frequency change than the audio signal, as per claim 20. Wang et al., do teach reducing the pitch of the sound signal resulting in a frequency drop (Col.5,

lines 8-9), and increasing the pitch by a frequency increase (Col.4, lines 57-58). Reducing the frequency is equivalent to time expanding the audio signal, and increasing the frequency is equivalent to time compressing the audio signal. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to modify the receiver of Taori et al., with the teachings of Wang et al., such that the decoder comprises time transforming means for obtaining the reconstructed audio signal by time transforming a decoded audio signal wherein the time transforming means are arranged for time expanding the decoded signal during a first part of the predetermined amount of time and for time compressing the decoded signal during a second part of the predetermined amount of time in such a way that the time transformed decoded signal has a larger frequency change than the decoded signal for the purpose of increasing the accuracy of the reconstruction of the audio signal.

Taori et al., teach a method as per claim 21, but do not specifically teach a method comprising time deriving a reconstructed audio signal by time transforming of a decode signal wherein the time transforming comprises time expanding the decoded signal during a first part of the predetermined amount of time in such a way that the time transformed decoded signal has a larger frequency change than the decoded signal, as per claim 22. Wang et al., do teach reducing the pitch of the sound signal resulting in a frequency drop (Col.5, lines 8-9), and increasing the pitch by a frequency increase (Col.4, lines 57-58). Reducing the frequency is

equivalent to time expanding the audio signal, and increasing the frequency is equivalent to time compressing the audio signal. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to modify the receiver of Taori et al., with the teachings of Wang et al., such that the decoder comprises time transforming means for obtaining the reconstructed audio signal by time transforming a decoded audio signal wherein the time transforming means are arranged for time expanding the decoded signal during a first part of the predetermined amount of time and for time compressing the decoded signal during a second part of the predetermined amount of time in such a way that the time transformed decoded signal has a larger frequency change than the decoded signal for the purpose of increasing the accuracy of the reconstruction of the audio signal.

4. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taori et al., (6,078,879) in view of Wang et al., (5,647,005) as applied to claims 4, 5, 7 above, and further in view of Sluitzer et al., (" A Time warper For Speech Signals," Proceedings of IEEE Workshop on Speech Coding Proceedings- Model, Coders, and Error Criteria, Porvoo, Finland, 22-23 June 1999, pages 150-152).

Taori et al., in view of Wang et al., teach the transmission system of claim 5. However, Taori et al., in view of Wang et al., fail to specifically teach the system of as per claim 6, wherein the time transform determining means are arranged for selecting the time transformed audio signal having the smallest

frequency change over said predetermined amount of time by selecting the time transformed audio signal having the highest peak in its auto correlation function. Selecting the time transformed audio signal having the highest peak in its autocorrelation function is well known in the art as taught by Sluitzer et al. Sluitzer et al., teach selection of the maximum pitch-related peak value of the autocorrelation function (page 151, left column lines 39-40).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention, to modify the system disclosed Taori et al., in view of Wang et al., to further include the method taught by Sluitzer et al., of arranging the time transform determining means for selecting the time transformed audio signal having the smallest frequency change over said predetermined amount of time by selecting the tie transformed audio signal having the highest peak in its autocorrelation function, because an artisan with ordinary skill in the art would readily recognize that this would optimally warp the audio signal to obtain a signal with the most constant frequency.

Taori et al., as modified by Wang et al., disclose a transmission system as per claim 4. However the combination of Taori et al., in view of Wang et al., does not specifically teach the time transform as defined by a quadratic relation between the actual time and the transformed time. Sluitzer et al., disclose a time warper of the form:

$\tau(t) = (a/T)*t^2 + (1-\alpha)*t$, $0 \leq t \geq T$, which is in the quadratic form (page 150, equation (1), and Col.1, lines 41-44). Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to include the time transform as defined by Sluitzer et al., defined as a quadratic relation between the actual time and the transformed time, as it would readily apparent to one with ordinary skill in the art, for the purpose of removing only the frequency variations which progress linearly with time since the linear part of the signal represents the major part of the frequency variation in a speech segment.

Taori et al., in view of Wang et al., disclose a transmission system according to claim 7. Taori et al., in view of Wang et al., do not specifically teach a transmission system, wherein the relation between the actual time t and the transformed time τ defined by $\tau(t) = (a/T)*t^2 + (1-\alpha)*t$, $0 \leq t \geq T$, in which a is a parameter defining the time transform and T is the duration of a signal segment. Sluitzer discloses a parabolic time warper of the form: $\tau(t) = (a/T)*t^2 + (1-\alpha)*t$, $0 \leq t \geq T$. Therefore, it would have been obvious to one with ordinary skill in the art at the time of invention to modify the transmission system of Taori et al., in view of Wang et al., using the relation between the actual time t and the transformed time τ defined by the equation $\tau(t) = (a/T)*t^2 + (1-\alpha)*t$, $0 \leq t \geq T$, for the purpose of removing only the frequency variations which progress linearly with time since the linear part of the signal represents the major part of the frequency variation in a speech segment.

Response to Arguments

5. Applicant's arguments filed 10/18/04 have been fully considered but they are not persuasive. Applicant argues that "There is simply no teaching or suggestion of Transmitting a frequency change signal to be used by a decoder for deriving the audio signal..." with regard to claims 1, 9, 13, 15, 17, 19, 21 and 25. Examiner disagrees. Along with the LPC codes and the gain, Taori transmits refined pitch which is also fundamental frequency of a signal, which is a resultant of tuning the frequency by further processing to be used by the decoder for deriving the reconstructed signal (See figures 7 and 9).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vijay B. Chawan whose telephone number is (703) 305-3836. The examiner can normally be reached on Monday Through Thursday 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (703) 305-9645. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vijay B Chawan
Vijay B. Chawan
Primary Examiner
Art Unit 2654

vbc
2/10/05

VIJAY CHAWAN
PRIMARY EXAMINER